

Date: Thu, 8 Jul 93 14:53:38 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #833  
To: Info-Hams

Info-Hams Digest                      Thu, 8 Jul 93                      Volume 93 : Issue 833

Today's Topics:

          Anyone know about Atlanta hamfest?  
                    callbook  
                    Center-Fed Antennas  
          Diamond RH-77 is it worth it ???  
                    new Radio Shack HT  
          radios in movies (3 msgs)  
  Repeater systems with multiple transmitters (3 msgs)  
                    resonant antenna and vswr  
                    Third-party traffic  
                    TUNING A WIERD LOAD....  
  Weekly Solar Terrestrial Forecast & Review for 09 July

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.  
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Date: Thu, 8 Jul 1993 17:42:33 GMT  
From: haven.umd.edu!darwin.sura.net!news.duc.auburn.edu!ducvax.auburn.edu!  
anderjh@ames.arpa  
Subject: Anyone know about Atlanta hamfest?  
To: info-hams@ucsd.edu

I just looked at a list of area Hamfests and saw that one would be held in  
Atlanta, Georgia on July 17 and 18. Does anyone know anything about this  
hamfest, like where it would be held and if there will be any VEC examination  
sessions and what time these tests might be given? I would like to take a  
5 wpm code test and a friend might be ready for a technician exam by then.

Still waiting for my callsign from testing at the Birmingham, AL hamfest on May 16.  
Jamie (ANDERJH@DUCVAX.AUBURN.EDU)

-----  
Date: Wed, 7 Jul 1993 18:04:52 EST  
From: anomaly.sbs.com!kd1nr!news@uunet.uu.net  
Subject: callbook  
To: info-hams@ucsd.edu

<U42157@uicvm.uic.edu> writes:

> How do I get into the callbook at callsigns.cs.buffalo? The  
> FAQ suggests giving the port number (2000) but it doesn't  
> seem to work. I've used it before but can't remember what I did  
> to get in.  
> Thanx, Jim Slepicka N9AXA  
> Univ. of Illinois at Chicago

Actually you have several options:

- 1) Buffalo Callsign Server  
telnet to callsign.cs.buffalo.edu 2000  
at the >> prompt you type CALL and the callsign you want to lookup.
- 2) NJ Inst. of Tech  
telnet to ham.njit.edu (not sure on the port number)  
Same format as Buffalo
- 3) For some real fun, Anomaly!  
telnet 155.212.2.2 (anomaly.sbs.com for the clueless)  
login as HAMRADIO, you'll be prompted for your callsign. You then  
have access to the Anomaly callsign server and several hundred meg of  
ham-related files that are FTP'able....

Have fun!

Tony

-----  
Tony Pelliccio kd1nr/ae  
\*!\*~\*!\*~\*!\*~\*!\*~\*!\*~\*!  
system@garlic.sbs.com  
-----

"Usenet is like a herd of performing elephants  
with diarrhea -- massive, difficult to  
redirect, awe-inspiring, entertaining, and a  
source of mind-boggling amounts of excrement  
when you least expect it." --spaf (1992)  
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Date: 8 Jul 93 18:47:01 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Center-Fed Antennas  
To: info-hams@ucsd.edu

>The trick with the G5RV is to keep it non-resonant...I chose wide  
>spaced line...I run a length of coax...(a tuner is a must with a G5RV).  
>I use an MFJ Versa-Tuner V...I used RG-8...  
>73, Joel -=KC1SG=-

Hi Joel, I agree with everything you said. Plus, if your antenna tuner has a balanced output, you will get more power to your antenna if you throw away your coax and run your almost lossless wide spaced line directly to your antenna tuner. If you don't have a balanced output on your antenna tuner, you can wind an almost lossless balun to give the unbalanced impedance to the tuner.

Joel, the following is for the readers that are not aware of antenna/transmission line facts:

Transmission lines are designed to minimize radiation and they act as transmission line transformers in non-resonant antenna systems, like the G5RV. A QUARTER-WAVE CENTER-FED ANTENNA PLUS A QUARTER-WAVE OF TWIN-LEAD DOES NOT EQUAL A HALF-WAVE ANTENNA!!!! The twin-lead transforms the antenna impedance and the coax transforms the twin-lead/coax junction impedance. -IF- your antenna tuner will match the twin-lead correctly, THE SWR DOESN'T MATTER MUCH, and you will always get more power to your antenna with twin-lead alone rather than using the more lossy coax...and a good ground is not nearly as important in a balanced transmission line system. No matter what the impedance into the twin-lead, it tends to be balanced to ground.

The point I was trying to make earlier is that in non-resonant antennas like the G5RV, the SWR is high at the twin-lead/coax junction and causes predictable losses in the coax. Twin-lead has much, much less loss than coax when the SWR is high.

73 and Best Wishes, KG7BK, Cecil

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Date: Thu, 8 Jul 1993 17:23:01 GMT  
From: agate!linus!linus.mitre.org!skroner.%mitre.org@ames.arpa  
Subject: Diamond RH-77 is it worth it ???  
To: info-hams@ucsd.edu

In article <C9q7H2.884@news.iastate.edu>, bwehr@iastate.edu (Brant D Wehr) writes:

>  
> I was interested in buying the Diamond RH-77 for my W2-A and I was wondering  
> if it is worth a hoot. It seems that the stock antenna could use some  
> improvement.  
>  
> If anyone has any experience with dual band duckies let me know via E-Mail  
>  
I have one. It does a better job than the duck that come on my 24AT.  
My brother in law was going to buy on at Barry Electronics but but they  
talked him into a cheaper but functionally the same antenna.

Stu Kroner  
73 de N1JEF@WA1PHY.#EMA.MA.USA.NA  
skroner@mitre.org

-----  
Date: Wed, 7 Jul 1993 18:21:52 EST  
From: anomaly.sbs.com!kd1nr!news@uunet.uu.net  
Subject: new Radio Shack HT  
To: info-hams@ucsd.edu

v111qheg@ubvms.cc.buffalo.edu (P.VASILION) writes:

> Hi all. Radio Shack just releaded a 440 hand held. The HTX-404. It looks  
> exactly like to -202, Havn;t had time to play with it, even though  
> I work at a Radio Shack (mgr dont like ppl playing with stuff :-( ...)  
>  
> I dont reccomend or endorse this product. I do not speak for my employer.  
> I'm not doing this to increase sales at my store. So dont start flaming the  
> messenger.  
>  
> If you do buy it let me know how it works for you and you opinion to it.

You know, this brings up a good point. You work in a what's supposedly  
called "America's Technology Store" and they won't let you play with the  
stuff, even though you're a licensed amateur? How the heck else are you  
suppose to learn what the rig can and can't do. Reading the manual is  
ok, but you learn by doing. Print this out and show it to your manager  
if you want. This explains why alot of RS people are totally clueless  
when it comes to their products. If it doesn't have a catalog number, it  
doesn't exist. {sigh}

73,

Tony

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-----  
Tony Pelliccio kd1nr/ae      "Usenet is like a herd of performing elephants  
*!*!*!*!*!*!*!*!*!*!*      with diarrhea -- massive, difficult to  
system@garlic.sbs.com        redirect, awe-inspiring, entertaining, and a  
-----                        source of mind-boggling amounts of excrement  
                                when you least expect it."  --spaf (1992)
```

```
-----  
Date: Thu, 8 Jul 1993 17:59:08 GMT  
From: usc!howland.reston.ans.net!spool.mu.edu!clark!netnews.nwnet.net!  
ns1.nodak.edu!plains.NoDak.edu!grant@network.UCSD.EDU  
Subject: radios in movies  
To: info-hams@ucsd.edu
```

In "Die Hard" and "Die Hard 2" they used Kenwood HT's for communicating.  
At least the bad guys did. FYI.

--Chris

```
--  
Christopher K. Grant | To know recursion, you must first know recursion.  
grant@plains.nodak.edu | My views are my own and not that of my employer.  
--- Northern Lights Cooperative Automation Project - WMMRCC ---
```

```
-----  
Date: 8 Jul 1993 18:48:29 GMT  
From: news.larc.nasa.gov!grissom.larc.nasa.gov!kludge@ames.arpa  
Subject: radios in movies  
To: info-hams@ucsd.edu
```

In article <01H0ASYL9S1C9BVQWN@ROSEVC.Rose-Hulman.Edu> DERRY@hydra.Rose-Hulman.EDU  
writes:

>Two or three nights ago on Cinemax there was a really stinko movie "Guns".  
>

>I watched a guy talk on a Tektronix oscilloscope. It even still had the light  
shield on it.

Gee, I knew those nuvistors were microphonic, but I didn't know it was  
that bad...

--scott

```
--  
"C'est un Nagra. C'est suisse, et tres, tres precis."
```

-----  
Date: 8 Jul 93 20:22:56 GMT  
From: news.service.uci.edu!orion.oac.uci.edu!easu348@network.UCSD.EDU  
Subject: radios in movies  
To: info-hams@ucsd.edu

grant@plains.NoDak.edu (Christopher K Grant) writes:

>In "Die Hard" and "Die Hard 2" they used Kenwood HT's for communicating.  
>At least the bad guys did. FYI.

>--Chris

Not only did they use Kenwood HT's for comm., but also take notice of the Yeasu HF rig the military guy is using to communicate with other people and to "find" the bad guys' operating freq.

>--

>Christopher K. Grant | To know recursion, you must first know recursion.

>grant@plains.nodak.edu | My views are my own and not that of my employer.

> --- Northern Lights Cooperative Automation Project - WMMRCC ---

--

Andrew Parker | KD6TGM | easu348@orion.oac.uci.edu

-----  
Date: 8 Jul 1993 18:05:43 GMT  
From: nothing.ucsd.edu!brian@network.UCSD.EDU  
Subject: Repeater systems with multiple transmitters  
To: info-hams@ucsd.edu

steve@matt.ksu.ksu.edu (Steve Schallehn) writes:

>Are there any repeater systems or repeater networks that use multiple  
>transmitters on a single frequency? ...

>As I recall, the transmitters were all phase-locked to  
>avoid interference, although I bet receiver capture is more important  
>to system performance.

Such simulcast systems are common for paging, and not that unusual for public service agencies. They're typically standard crystal-controlled transmitters with phase-locking adaptors added.

Some experimentation has been done using rubidium reference oscillators.

One way to do the phase-locking might be to use Loran C, a local broadcast station, satellite downlink, or some other reasonably-stable strong reference signal to phase-lock the synthesizer in an ordinary ham radio.

Coupled with a reasonably smart and properly-installed receiver voting system, you can have saturation coverage over as wide an area as you have money for. In the wide-open spaces or where the ham population is limited, it would be super.

In this area, we're more interested in making repeaters 'cellular' - that is, limited coverage areas, since that allows more people to re-use the frequency geographically - less crowding.

- Brian

-----  
Date: Thu, 8 Jul 1993 18:24:01 GMT  
From: elroy.jpl.nasa.gov!sdd.hp.com!col.hp.com!news.dtc.hp.com!srngenprp!  
alanb@ames.arpa  
Subject: Repeater systems with multiple transmitters  
To: info-hams@ucsd.edu

Steve Schallehn (steve@matt.ksu.ksu.edu) wrote:  
: Are there any repeater systems or repeater networks that use multiple  
: transmitters on a single frequency? I have never heard of one in  
: amateur use, but I remember hearing about an FBI system where  
: widely-dispersed transmitters used the same frequency to cover very  
: large areas. As I recall, the transmitters were all phase-locked to  
: avoid interference, although I bet receiver capture is more important  
: to system performance.

I don't think they would have to be truly phase-locked. The relative phase from the different transmitters will be random at the receiver (depending on its location) anyway. So long as all the carriers are within a few Hz, you won't get an interfering beat note in the receiver.

AL N1AL

-----  
Date: 8 Jul 1993 19:52:24 GMT  
From: agate!howland.reston.ans.net!noc.near.net!news.bbn.com!bbn.com!  
levin@ames.arpa  
Subject: Repeater systems with multiple transmitters  
To: info-hams@ucsd.edu

alanb@sr.hp.com (Alan Bloom) writes:  
|Steve Schallehn (steve@matt.ksu.ksu.edu) wrote:  
|: large areas. As I recall, the transmitters were all phase-locked to  
|: avoid interference, although I bet receiver capture is more important

|: to system performance.

|

|I don't think they would have to be truly phase-locked. The relative  
|phase from the different transmitters will be random at the receiver  
|(depending on its location) anyway. So long as all the carriers are  
|within a few Hz, you won't get an interfering beat note in the  
|receiver.

It seems to me that there would be interference bands. If the  
receiver is fixed and the transmitters phase-locked, the wavelength  
and distance to the transmitters would determine whether there was a  
signal at the receiver. If the transmitters were not locked to the  
same frequency, you'd get interference beats. For a mobile receiver,  
though, all bets would be off, and I can't see any reason for  
phase-locking the transmitters.

/J

=

Nets: levin@bbn.com | "There were sweetheart roses on Yancey Wilmerding's  
POTS: (617)873-3463 | bureau that morning. Wide-eyed and distraught, she  
KD10N (@KB4N.NH.USA) | stood with all her faculties rooted to the floor."  
| -- S. J. Perelman

-----  
Date: 8 Jul 93 19:09:12 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: resonant antenna and vswr  
To: info-hams@ucsd.edu

Jim, WA6SDM wrote:

>>" Your case with the resonant dipole fed with 300-ohm twin lead the SWR is  
>>a function of the electrical wavelength of the twin lead."

SWR is NEVER a function of anything other than the relationship between the  
characteristic impedance of the feed line and the impedance of the load.  
For a 50-ohm load fed with 300-ohm feedline the SWR WILL BE 6-1! Always.  
The laws of physics are not repealed! Rejoice all ye Tom-Dick-and Harry  
Hams!

>>"At half-wave points you will have low vswr."

NO! At half-wave points you WILL see the same SWR as at the load end of the  
feed line (less any losses present in the line, to be accurate).

Al, N1AL had it right all along!



Paul  
WB2OYC

-----  
Date: 8 Jul 1993 19:40:58 GMT  
From: agate!howland.reston.ans.net!darwin.sura.net!haven.umd.edu!cville-  
srv.wam.umd.edu!ham@ames.arpa  
Subject: Third-party traffic  
To: info-hams@ucsd.edu

There was a question earlier about whether or not American hams could talk to ALL other hams in the world. Unless the government says so (like in times of war, maybe), then it's OK.

This is for all you DX'ers who might allow another, unlicensed or lower-level licensed person to use your callsign when working DX, like in a contest...

To allow another person who does not have the privileges to transmit on a particular frequency is allowing them to be a "Third Party" - just like a phone patch. During a DX contest, this unlicensed or under-licensed operator will probably, at some time, work a station or two or three or a hundred with which the US has no third-party traffic agreement!!!

This is a violation of Federal Law. Third-party traffic undercuts the ability of telephone companies to make a profit, both in the US and in DX countries. Great Britain and the US have VERY limited 3rd party traffic agreements, and I think that most of Europe is off the list completely.

With the IARU HF World Championship this weekend, it just came to mind...

Scott NF3I

p.s. If a friend tells you to tell someone on the air about an upcoming trip, and you say it like  
"I heard that Joey was traveling to your country next week..."  
where does the definition of Third-Party traffic begin and end?

--

73,

----- The  
      \ / Long Original  
Scott Rosenfeld Amateur Radio NF3I Burtonsville, MD | Live \$5.00

WAC CW/SSB WAS 95% of the way to DXCC \_\_\_\_\_| Dipoles! Antenna!

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Date: 8 Jul 1993 15:33:46 GMT  
From: usc!howland.reston.ans.net!gatech!ukma!mthvax.cs.miami.edu!  
phoenix1.ir.miami.edu!guest@network.UCSD.EDU  
Subject: TUNING A WIERD LOAD....  
To: info-hams@ucsd.edu

HELLO OUT THERE.....

I have an interesting r.f. matching problem. We are in a plasma physics lab that is using ICOM equipment to drive an experiment. I am looking for either a Dentron Monitor Tuner, a Drake MN-2000 or a Drake MN-2700. I am told that I these devices can "load a lawn chair..." with no problem. My problem is that I can provide a good match (less than 1.3:1 SWR CW@18.134MHz) but when stuff starts to change in the experiment so does the impedance. We have an ICOM-781 with the 2klps and the at500 but we still cook things when the impedance changes quickly. If anyone has any ideas or information regarding "ANY" way that we can operate with a rapidly varying load I would be interested in hearing it. We have a 60MHz tube transmitter that was a little more robust but it also takes a beating. I have also tried to run a dummy load in parallel with the plasma ....no luck....thanks 4 the help

Jonathan Alexander Walkenstein A.K.A. guest@phoenix1.ir.miami.edu

-----  
Date: 8 Jul 93 19:32:44 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Weekly Solar Terrestrial Forecast & Review for 09 July  
To: info-hams@ucsd.edu

--- SOLAR TERRESTRIAL FORECAST AND REVIEW ---  
July 09 to July 18, 1993

Report Released by Solar Terrestrial Dispatch  
P.O. Box 357, Stirling, Alberta, Canada  
T0K 2E0  
Accessible BBS System: (403) 756-3008

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\*!\*!\*!\*!\*!\* NOTE \*!\*!\*!\*!\*!\*

Version 2.00 of our Professional Dynamic Auroral Oval Simulator is now available. Completely rewritten, this software now produces numerous types of map projections centered on any geographical location, including OBLIQUE AZIMUTHAL EQUIDISTANT maps where radio signal paths are projected as straight lines. Precise DMSP Satellite Observations of Auroral Activity characteristics are also plottable for any hour of any day from

\*!\*!\*!\*!\*!\* NOTE \*!\*!\*!\*!\*!\*

## 10-DAY SOLAR/RADIO/MAGNETIC/AURORAL ACTIVITY OUTLOOK

	10.7 cm	HF Propagation +/- CON							SID				AU.BKSR DX				Mag		Aurora			
	SolrFlx	LO	MI	HI	PO	SWF	%MUF	%	ENH	LO	MI	HI	LO	MI	HI	%	K	Ap	LO	MI	HI	
09	095	VG	G	F	F	10	00	75	10	NA	NA	NA	00	05	10	35	3	14	NV	NV	LO	
10	090	VG	G	F	F	10	00	75	10	NA	NA	NA	01	10	25	35	3	17	NV	LO	MO	
11	085	VG	G	P	P	10	-05	70	10	NA	NA	NA	01	15	30	30	4	20	NV	LO	MO	
12	085	VG	G	F	F	10	00	70	10	NA	NA	NA	01	10	25	30	3	15	NV	LO	MO	
13	085	VG	G	F	F	10	00	70	10	NA	NA	NA	01	05	10	35	3	12	NV	NV	LO	
14	085	VG	G	F	F	10	00	65	10	NA	NA	NA	01	05	10	35	2	10	NV	NV	LO	
15	085	VG	G	F	F	10	-05	65	10	NA	NA	NA	01	05	10	30	2	10	NV	NV	LO	
16	080	VG	G	F	F	10	-05	65	10	NA	NA	NA	01	05	10	30	2	10	NV	NV	LO	
17	080	VG	G	F	F	10	-05	65	10	NA	NA	NA	01	05	10	30	2	10	NV	NV	LO	
18	080	VG	G	F	F	10	-05	65	10	NA	NA	NA	01	05	10	30	2	10	NV	NV	LO	

AURORA1 Activity for LOw, MIddle and HIgh Latitudes (see below)

HF Prop. Quality rated as: EG=Extremely Good, VG=Very Good, G=Good, F=Fair,

P=Poor, VP=Very Poor, EP=Extremely Poor.

Probability of Sporadic E (Es) for the various latitudes is given in percent.

Kp Planetary Index rated: 0=V.Quiet, 1=Quiet, 2=Unstld, 3=Active, 4=V.Active, 5=Minor Storm, 6=Major Storm, 7=Maj-Sev Storm, 8=Severe Storm, 9=V.Severe.

Ap Planetary Index rated: 0-7=Quiet, 8-16=Unstld, 17-29=Active, 30-49=Minor Storm, 50-99=Major Storm, Severe Storm >=100.

Auroral Activity rated: NV=Not Visible, L0=Low, M0=Moderate, HI=High, VH=Very High.

#### PEAK PLANETARY 10-DAY GEOMAGNETIC ACTIVITY OUTLOOK (09 JUL - 18 JUL)

EXTREMELY SEVERE												HIGH
VERY SEVERE STORM												HIGH
SEVERE STORM												MODERATE
MAJOR STORM												LOW - MOD.
MINOR STORM												LOW
VERY ACTIVE			*									NONE
ACTIVE	*	**	***	**	*							NONE
UNSETTLED	***	***	***	***	***	**	**	**	**	**	**	NONE
QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
VERY QUIET	***	***	***	***	***	***	***	***	***	***	***	NONE
-----												
Geomagnetic Field	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		Anomaly
Conditions	Given in 8-hour UT intervals											Intensity

CONFIDENCE LEVEL: 75%

#### NOTES:

Predicted geomagnetic activity is based heavily on recurrent phenomena. Transient energetic solar events cannot be predicted reliably over periods in excess of several days. Hence, there may be some deviations from the predictions due to the unpredictable transient solar component.

#### 60-DAY GRAPHICAL ANALYSIS OF GEOMAGNETIC ACTIVITY

54	J	
51	J	
49	J	
46	J	M
43	J	M
40	J	M
38	MJ	MM
35	MJ	MM
32	MJ	MM

30	MJ			MM				
27	MJ			MM				
24	MJ			MM		A	A	
22	MJ			MM	A	A	A	
19	MJ		A	MM	A	A	AAA	
16	MJ	A	AA	AMMAA	A	AA	AAA	
13	MJ	U	A	AA	AMMAAU	A	UU	AAA
11	MJ	U	AUUA	AAU	AMMAAU	A	UUU	UAA
8	MJ	U	AUUA	AAU	AMMAAU	AUUUUU	UAAU	UUAAAA
5	MJ	UUUAUUUUU	AAUQQ	QAMMAAUUUUUUU	Q	QUAAUUQUUUUUUU	UUU	
3	MJ	UUUAUUUUUUQQQQQ	AAUQQQ	AMMAAUUUUUUUUUQQ	QQQUAAUUQUUUUUUU	UUU		

Chart Start Date: Day #129

# NOTES:

This graph is determined by plotting the greater of either the planetary A-index or the Boulder A-index. Graph lines are labelled according to the severity of the activity which occurred on each day. The left-hand column represents the associated A-Index for that day.

Q = Quiet, U = Unsettled, A = Active, M = Minor Storm, J = Major Storm, and S = Severe Storm.

## CUMULATIVE GRAPHICAL CHART OF THE 10.7 CM SOLAR RADIO FLUX

143			
140		*	
137		****	
134	*	*****	*
131	**	*****	*
128	***	*****	*
125	****	*****	*
122	****	*****	****
119	*****	*****	*****
116	*****	*****	*****
113	*****	*****	*****
110	*****	*****	*****
107	*****	*****	*****
104	*****	*****	*****
101	*****	*****	*****
098	*****	*****	*****
095	*****	*****	*****
092	*****	*****	*****
089	*****	*****	*****
086	*****	*****	*****
083	*****	*****	*****

080 | \*\*\*\*\* |

-----  
Chart Start: Day #129

#### GRAPHICAL ANALYSIS OF 90-DAY AVERAGE SOLAR FLUX

-----

```
-----  
129 |  
128 | *  
127 | ***  
126 | *****  
125 | *****  
124 | *****  
123 | *****  
122 | *****  
121 | *****  
120 | *****  
119 | *****  
118 | *****  
117 | *****  
116 | *****  
115 | *****  
114 | *****  
113 | *****  
112 | *****  
111 | *****  
110 | *****  
-----
```

Chart Start: Day #129

#### NOTES:

The 10.7 cm solar radio flux is plotted from data reported by the Penticton Radio Observatory (formerly the ARO from Ottawa). High solar flux levels denote higher levels of activity and a greater number of sunspot groups on the Sun. The 90-day mean solar flux graph is charted from the 90-day mean of the 10.7 cm solar radio flux.

#### CUMULATIVE GRAPHICAL CHART OF SUNSPOT NUMBERS

-----

```
-----  
147 |  
140 | *  
133 | ** ***  
-----
```

```

126 | ****          *****
119 | ****          *****
112 | ****          *****          *
105 | ****          ***** *          **
098 | ****          *****          *** * **
091 | *****          *****          ***** ***
084 | *****          *****          ***** ***
077 | *****          *****          ***** ****
070 | *****          *****          *****
063 | *****          *****          *****
056 | ***** *          *****          *****
049 | *****          *****          *****
042 | ***** **          *****          *****
035 | *****          *****          *****
028 | *****          *****          *****
021 | *****          *****          * *****
014 | *****          *****          * *****
007 | *****

```

-----  
Chart Start: Day #129

#### NOTES:

The graphical chart of sunspot numbers is created from the daily sunspot number counts as reported by the SESC.

#### HF RADIO SIGNAL PROPAGATION PREDICTIONS (09 JUL - 18 JUL)

##### High Latitude Paths

CONFIDENCE LEVEL	EXTREMELY GOOD												
	VERY GOOD												
	GOOD												
	FAIR	***	**	**	**	***	***	***	***	***	***	***	
	POOR		*	*	*								
	VERY POOR												
65%	EXTREMELY POOR												
	-----	---	---	---	---	---	---	---	---	---	---	---	---
	PROPAGATION	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	QUALITY	Given in 8 Local-Hour Intervals											
	-----												

##### Middle Latitude Paths

CONFIDENCE LEVEL	EXTREMELY GOOD												
	VERY GOOD												
	GOOD	***	***	**	**	***	***	***	***	***	***	***	
	FAIR			*	*								

-----		POOR											
70%		VERY POOR											
		EXTREMELY POOR											
-----													
	PROPAGATION	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	QUALITY	Given in 8 Local-Hour Intervals											

NOTES:

POTENTIAL VHF DX PROPAGATION PREDICTIONS (09 JUL - 18 JUL)  
INCLUDES SID AND AURORAL BACKSCATTER ENHANCEMENT PREDICTIONS

[illegible]





CHANCE OF	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	F	S	S	M	T	W	T	F	S	S
VHF DX	Given in 8 hour local time intervals										AURORAL BACKSCATTER									

NOTES:

These VHF DX prediction charts are defined for the 30 MHz to 220 MHz bands. They are based primarily on phenomena which can affect VHF DX propagation globally. They should be used only as a guide to potential DX conditions on VHF bands. Latitudinal boundaries are the same as those for the HF predictions charts.

## AURORAL ACTIVITY PREDICTIONS (09 JUL - 18 JUL)

## High Latitude Locations

CONFIDENCE LEVEL ----- 70%	EXTREMELY HIGH											
	VERY HIGH											
	HIGH											
	MODERATE	*	*	*								
	LOW	***	***	***	***	***	***	***	***	***	***	***
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
	-----	---	---	---	---	---	---	---	---	---	---	---
	AURORAL	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
	INTENSITY	Eve.Twilight/Midnight/Morn.Twilight										

## Middle Latitude Locations

	EXTREMELY HIGH											
CONFIDENCE LEVEL	VERY HIGH											
	HIGH											
-----	MODERATE											
65%	LOW	*	***	*								
	NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
	-----	--	--	--	--	--	--	--	--	--	--	--
	AURORAL INTENSITY	Fri Eve.	Sat Twilight	Sun Midnight	Mon Morn.	Tue Twilight	Wed Midnight	Thu Morn.	Fri Twilight	Sat Midnight	Sun Morn.	

## Low Latitude Locations

[illegible]

NOT VISIBLE	***	***	***	***	***	***	***	***	***	***	***
-----	---	---	---	---	---	---	---	---	---	---	---
AURORAL	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
INTENSITY	Eve.Twilight/Midnight/Morn.Twilight										

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NOTE:

Version 2.00 of our Professional Dynamic Auroral Oval Simulation Software Package is now available. This professional software is particularly valuable to radio communicators, aurora photographers, educators, and astronomers. For more information regarding this software, contact: "Oler@Rho.Uleth.CA", or "COler@Solar.Stanford.Edu".

For more information regarding these charts, send a request for the document, "Understanding Solar Terrestrial Reports" to: "Oler@Rho.Uleth.Ca" or to: "COler@Solar.Stanford.Edu". This document, as well as others and related data/forecasts exist on the STD BBS at: (403) 756-3008.

\*\* End of Report \*\*

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Date: Wed, 7 Jul 1993 18:00:23 EST  
 From: anomaly.sbs.com!kd1nr!news@uunet.uu.net  
 To: info-hams@ucsd.edu

References <1993Jul5.200048.15641@bongo.tele.com>,  
 <1993Jul6.185605.3084@btree.uucp>, <1993Jul6.234343.10361@bongo.tele.com>m  
 Subject : Re: Recharging ALKALINE batteries

julian@bongo.tele.com (Julian Macassey) writes:

```
> In article <1993Jul6.185605.3084@btree.uucp> hale@btree.uucp (Bob Hale) write
> s:
>>In article <1993Jul5.200048.15641@bongo.tele.com> julian@bongo.tele.com (Jul
> ian Macassey) writes:
>>
>>[ about the "Buddy-L" alkaline recharger/exploder deleted ]
>>
>>>      Also, how come no-one has built a "made for recharging"
>>>alkaline?
>>>
>>
>>Ray-O-Vac has started to advertise a rechargeable alkaline cell.
>>It is supposed to be good for up to 25 rechargings, and it is
>>supposed to have 4 times the energy storage of an equivalent
>>NiCd cell. This latter claim is easy to believe; the former claim
```

>>remains to be verified by real-world experience.

>>

>>Apparently Ray-O-Vac was spurred into action by another battery  
>>company (name unknown to me) which already has such a product  
>>ready for the market.

>>

>

> If this is so, and the cost is only about 50% above the  
> current bloated cost of alkalines, they have a winner. I assume the  
> self discharge rate would be the same as a standard alky. In which  
> case it would be ideal for all those low current constant drain jobs  
> like receivers, flashlights etc.

>

> Where are the Ray-O-Vac ads?

I don't know but I have something I'd like to bring up. In r.r.a.e  
someone mentioned just ditching the alkalines for NiCd batteries but the  
problem with them is current capacity. They aren't quite up to the same  
level as Alkaline.

On another subject, what ever happened to lead-acid gel-cells? I know my  
Sony cordless phone uses one and I've left it off the charger for days  
on end and it still works. The battery is EXTREMELY small for a  
lead-acid. What's the dope on these things?

Tony, KD1NR

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End of Info-Hams Digest V93 #833

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